

4.12.4 Bulletin Board

The Bulletin Board Service (BBS) provides the capability for sharing information among ECS users, testers, and operations staff. The information is formatted as E-mail messages and can be posted on the BB by users or ECS applications and is then available for all users to read. The BBS is an implementation of the Internet Usenet News where news articles are organized into named “newsgroups” and stored for retrieval on an NNTP host.

The BBS consists of two major components: the BB Server software and the BB Client software. The software used to provide the service is COTS. InterNetNews (INN) is the server component. Netscape is the client component.

INN is developed and supported by the Internet Software and is a complete Usenet News system for UNIX. It has no GUI but is made up of a number of components or programs of which *innd* is the core daemon process. *innd* is the NNTP server which multiplexes all incoming and outgoing news articles and *nntp* is the server that is created for each client that wants to read news articles. The BB Server runs on only one machine (at the SMC) where the INN package or daemon processes are configured to start up when the machine is booted and stay running until manually stopped (similar to other Internet services or daemon processes such as FTP or Telnet). INN does not usually require any manual intervention once it is configured and running, however if necessary it can be tuned or controlled by other programs or tools such as *ctlinnd*, and configuration files such as *hosts.nntp* which are included in the INN package. A more detailed or complete description of INN is beyond the scope of this document and the reader is referred to the documents listed in section 4.12.4.1.

The Bulletin Board Server is used to perform the following operator functions listed in Table 4.12.4-1. Note, all the commands or scripts presented are fully documented in Unix Manual format (`man pages`) for INN and should be referred to for more details.

Table 4.12.4-1. Common ECS Operator Functions Performed with the Bulletin Board Server

Operating Function	Command/Script or GUI	Description	When and Why to Use
Start INN	Normally invoked at system boot time and not manually	Starts the <i>innd</i> daemon	INN is installed as part of the system boot procedure and will automatically be started
Control INN	ctlinnd	This program supports administrative tasks (adding newsgroups, changing configuration, etc.)	To send control messages to the control channel of the INN server without having to shutdown and restart <i>innd</i> .
Check INN	inncheck	This program examines and verifies various INN configuration files and databases.	To verify things like permissions, ownership, syntax errors in config files, etc.
INN status	innstat	This script displays the operating mode of the server, as well as disk usage and the status of all log and lock files.	To print a snapshot of the INN system.
INN System Administration	news.daily	This program performs a number of important INN administrative functions. This includes producing a status report, removing old news articles, processing log files, rotating the archived log files, etc.	To perform regular INN system administration. Usually started daily by cron(8).
Summarize INN log files	scanlog	This script summarizes the information recorded in the INN log files.	To view a summarized version of the INN log files.

Netscape is a complete Internet package for document browsing, E-mail and Usenet news. For Bulletin Board only references to Netscape News, which is the tool that supports Usenet News, and to version 3.01 of Netscape will be made. For more information on Netscape, see Sections 4.12.5, "Netscape Navigator".

The Bulletin Board Client is used to perform the operator functions listed in Table 4.12.4-2.

**Table 4.12.4-2. Common ECS Operator Functions Performed with
Bulletin Board Clients (1 of 2)**

Operating Function	Command/Script or GUI	Description	When and Why to Use
Start Netscape	netscape	The program Netscape is started and one or more of the three Netscape GUIs are seen	To start Netscape
Start Netscape News	Select <i>Netscape News</i> from the pull-down menu <i>Window</i> of the Netscape Main Window	Allows the operator to start the Usenet News reader	When the Netscape News GUI is not seen.
Set the name of the News Host	Select <i>Open News Host</i> from the pull-down menu <i>File</i> of the Netscape News GUI	Allows the operator to point Netscape News to the correct host that provides the news articles.	To configure the NNTP host when the wrong or no host has been set up for Netscape.
Show list of all available news categories or newsgroups	Select <i>Show All Newsgroups</i> from the pull-down menu <i>Options</i> of the Netscape News GUI	Allows the operator to see the complete list of subscribed and non-subscribed newsgroups	To see all available newsgroups provided by the NNTP host
Subscribe to a newsgroup	Select <i>Add Newsgroup</i> from the pull-down menu <i>File</i> on the Netscape News GUI	Allows the operator to subscribe to one or more newsgroups only from the complete list of newsgroups available.	Lets the operator select a subset of the available Newsgroups.
Show only subscribed newsgroups	Select <i>Show Subscribed Newsgroups</i> from the pull-down menu <i>Options</i> on the Netscape News GUI	Allows the operator to limit the visible newsgroups to those subscribed rather than all the available ones.	Lets the operator limit the list of visible of newsgroups
Show summary of all articles in a newsgroup	Click or highlight the newsgroup in the Netscape News GUI. Select <i>Show All Messages</i> from the <i>Options</i> menu.	Allows the operator to see summary information of all articles available on the selected newsgroup.	To see the summary information of all articles in a newsgroup.
Show summary of unread articles in a newsgroup	Click or highlight the newsgroup in the Netscape News GUI. Select <i>Show Only Unread Messages</i> from the <i>Options</i> menu.	Allows the operator to see summary information of only the unread articles available on the selected newsgroup.	To see the summary information of the previously unread articles in a newsgroup.

**Table 4.12.4-2. Common ECS Operator Functions Performed with
Bulletin Board Clients (2 of 2)**

Operating Function	Command/Script or GUI	Description	When and Why to Use
Read an article	Click or highlight the summary information of the article	Allows the operator to read the contents of a message including any files attached to the message.	To view the complete news article.
Reply to an article	Click : <i>Re:Mail</i> to send an E-mail reply to the author. <i>Re:News</i> to post a reply to the newsgroup. <i>Re:Both</i> to post a reply to the newsgroup & to send an E-mail reply to author.	Allows the operator to send replies or follow-on messages to an article in the newsgroup.	To reply to articles
Send a new article	Click <i>To:News</i> to post a new message on the newsgroups	Allows the operator to send or post articles in newsgroups	To post articles or messages on the Bulletin Board
Print a message	Click or highlight the summary information of the article and select <i>Print</i> from the <i>File</i> menu	Allows the operator to print articles on a local or network printer	To send articles to a printer

4.12.4.1 Quick Start Using Bulletin Board

The Bulletin Board server is entirely a command line interface Freeware product known as INN and is delivered with complete documentation in the form of Unix Manpages. Another source of information is:

- The Internet Software Consortium (<http://www.isc.org/inn.html>)

The documentation of INN used as a basis and referenced in this section is for version 1.7.2, contained in ECS version 2.0. This tool is a Freeware product provided by ECS. ECS supports and provides the authorized documentation for this Freeware product.

The Bulletin Board client is a COTS product, Netscape News, and is GUI based. It has complete on-line Help for all its functionality and is discussed in section 4.12.5 “Netscape Navigator”.

4.12.4.1.1 Invoke Bulletin Board Server

The BB or INN server is not invoked. It is installed and configured to start up when the system is booted. The main process, *innd*, runs as a daemon process and may start other processes when

needed. The other programs or tools are command line interface based and are simply started on the command line with optional arguments. For details, refer to the Unix manpages for INN.

4.12.4.1.2 Invoking Bulletin Board Client From Command Line Interface

To execute Bulletin Board Client from the command line prompt use:

netscape

See Appendix C, List of Scripts and Macros, for a listing of **netscape**

4.12.4.1.3 Invoking Bulletin Board Client From the ECS Desktop.

There is no icon on the ECS Desktop for Bulletin Board Client. Currently, the Bulletin Board Client GUI is activated with a command line script as described in the previous section.

See section 4.12.5, “Netscape Navigator”, for further instruction on running Netscape.

When Netscape starts up and the Netscape News window is not displayed, select *Netscape News* from the pull-down menu *Window* of the Netscape Main Window.

4.12.4.2 Bulletin Board Client Main Screen

Bulletin Board Client uses the Main Window of Netscape News. This screen is shown in Figure 4.12.4-1.

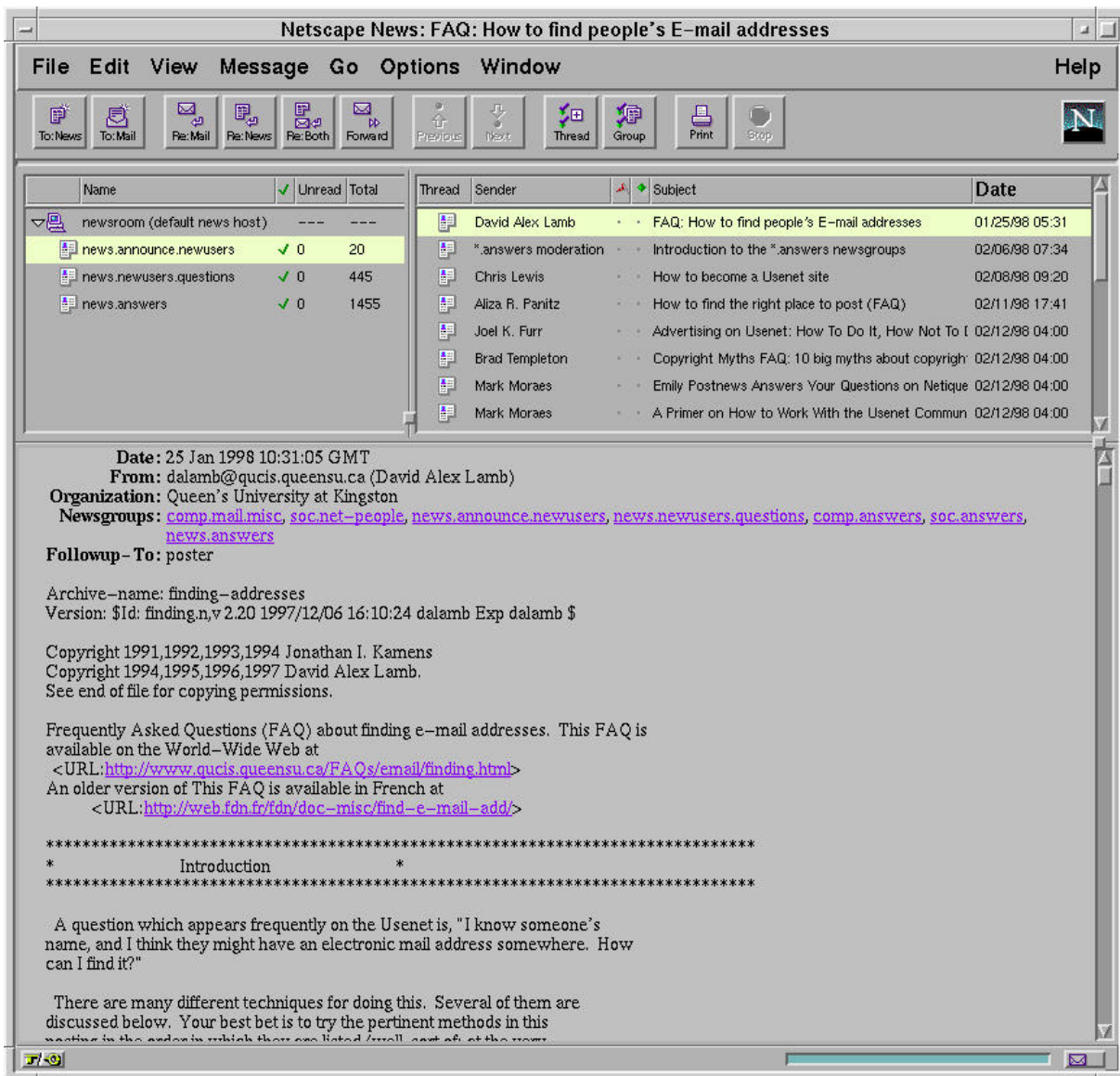


Figure 4.12.4-1. Netscape News (Bulletin Board Client) Main Screen

At the top of the window are a number of pull-down menus followed by a number of shortcut buttons for the most commonly used operations. Below them are three screens where the top left one displays the News host and a list of newsgroups, the top right displays the summary information for articles in the selected or highlighted newsgroup, which are:

- author of the news article,
- subject or title of the message.
- date and time it was created,

The main screen at the bottom displays the contents (including any attached files) of an article selected for viewing.

See section 4.12.5, “Netscape Navigator”, for the description of the data displayed on the Netscape screen

4.12.4.3 Required Operating Environment

The BB server requires the Unix operating environment. The client (Netscape) does not require Unix.

When the BB client, or Netscape, is started for the first time, it creates a directory called “.netscape” in the user’s home directory (\$HOME). It then saves all the configuration files and details in this directory. Netscape also creates other directories for its cache and the user’s E-mail which are not part of the Bulletin Board service and therefore covered in sections, 4.12.5 “Netscape Navigator.

For the BB server or INN, the following is a list of all programs or scripts included in the installation. (Note, some of these programs are started by others in the list.)

- innd InterNetNews daemon
- ctlinnd control the InterNetNews daemon
- inncheck check inn configuration and database files
- innstat print snapshot of INN system
- news.daily do regular Usenet system administration
- scanlogs summarize INN log files
- nnrpd NNTP server for newsreaders
- inews send a Usenet article to the local news server for distribution
- nntpsend send Usenet articles to remote site
- innfeed send Usenet articles to a remote NNTP server
- expire Usenet article and history expiration program
- overchan update the news overview database
- expireover Expire entries from the news overview database

There are also a number of associated configuration files, which are briefly outlined below.

- active (also active.times) list of active newsgroups
- controlctl specify handling of Usenet control messages
- distrib.pats Default values for message Distribution header
- expirectl control file for Usenet article expiration
- history record of current and recently expired usenet articles
- hosts.nntp list of NNTP feeders
- inn.conf configuration data
- innwatchctl control Usenet supervision by innwatch
- moderators mail addresses for moderated newsgroups
- newsfeeds determine propagation of Usenet articles
- newslog description of log files
- nnrp.access specify access of readers

- `nntpsend.ctl` list of sites to feed via `nntpsend`
- `overview.fmt` format of news overview databases
- `passwd.nntp` passwords for authorizing NNTP connections

For more details on the above INN programs and files, refer to the corresponding Unix Manual pages.

For all COTS packages, appropriate information on operating environments, tunable parameters, environment variables, and a list of vendor documentation can be found in a CM controlled document for each product. To find the documentation for Bulletin Board, refer to the ECS Baseline Information System web page, URL <http://cmdm.east.hitc.com/>.

4.12.4.4 Databases

The Bulletin Board client, or Netscape News, has no database.

The Bulletin Board server, or INN, maintains a number of database files in its own proprietary formats and are briefly described below. For more details, refer to the corresponding Unix Manual pages.

- The news **Spool** is where all the articles are stored. Each newsgroup has its own directory and an article is stored in a file name that matches the numerical article number in the group.
- **History database** is a list of article message IDs, the arrival and expiration time, the article posting data, and where the article was stored in the spool. Lines are appended to the history file for each accepted incoming article.
- **History index** is a DBZ database which permits locating the particular line in the history database by message ID.
- Most of the INN programs generate **log** messages.
- `innd` does not write the complete article out to feeds. Instead INN writes meta-information either to a " **batch** " file to be transmitted later, or directly to a program which transmits.

4.12.4.5 Special Constraints

None.

4.12.4.6 Outputs

The BB client, or Netscape News, displays all its articles and error messages on the GUI. The articles or file attachments posted on the Bulletin Board can be sent to printers and/or saved in files for other text editors or programs (e.g. JPEG image viewers).

The Main (start-up) BB server processes present the results or data on the terminal from which they were started. INN runs as daemon processes and produce no output.

4.12.4.7 Event and Error Messages

Event and error messages from Netscape News are displayed on the GUI.

The BB server, or INN, sends all event, error and log messages to its log database.

4.12.4.8 Reports

The BB client, or Netscape News, produces no reports.

The BB server, or INN, generates different log files for events, errors, configuration changes, etc. A script, *scanlogs*, is also provided to summarize the information contained in the logs. For more details, refer to the Unix manpages.

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